

ABSTRACT

Stable catalyst carrier impregnating solutions can be prepared using a component of a Group VIB metal, e.g., molybdenum, at high concentration, a component of a Group VIII metal, e.g., nickel, at low concentration, and a phosphorous component, e.g., phosphoric acid, at low concentration, provided that the Group VIII metal is in a substantially water-insoluble form and a particular sequence of addition of the components is followed, even when a substantially water-insoluble form of the Group VIB component is used. The resulting stabilized impregnating solution can be supplemented with additional Group VIII metal in water-soluble form to achieve increased levels of such metal in the final catalyst. Furthermore, uncalcined catalyst carriers impregnated with the stable solution and subsequently shaped, dried and calcined, have unexpectedly improved performance when used in the hydroprocessing of heavy hydrocarbon feedstocks. High conversion can be achieved at reduced levels of sediment, especially in comparison to standard commercial catalysts.